Nuclear Material Stabilization and Disposition (RL-0011)

T. W. Halverson, Acting Vice President, Plutonium Finishing Plant Closure Project / (509) 376-8823

Overview

This section addresses work in Project Baseline Summary RL-0011, *Nuclear Material Stabilization and Disposition.*

NOTE: Unless otherwise noted, all information contained herein is as of the end of February 2004.

Notable Accomplishments

Stabilization of Nuclear Materials

Metals, Alloys, Oxides and Polycubes: Stabilization of nuclear materials was officially completed on February 12, 2004, one week ahead of schedule and $1.7M under budget.

Maintain Safe and Secure Special Nuclear Materials (SNM)

FH completed the International Atomic Energy Agency Monthly Ad-hoc inspection without any findings or anomalies.

Disposition SNM

FH completed packaging the first items of material to be de-inventoried. Demonstration of packaging efficiency was achieved in February with six operators qualifying to package 9975 containers. All four loading stations are operational. With six operators supporting the effort on a daily basis, it was proven that up to eight 9975s can be successfully packaged daily on a routine basis.

Disposition the Plutonium Finishing Plant (PFP) Facility

During the February 17, 2004, through March 5, 2004, transition period, approximately 1,300 PFP employees received deactivation and decommissioning (D&D)-related training on how to safely take this high hazard facility to "slab on grade" by September 30, 2009.

Transition 232-Z Facility: During February, field work in the 232-Z building included removal of upper glovebox firebrick, and the conveyor and conveyor chain from Section C of the glovebox. This completed all firebrick removal from the incinerator section. Approximately eighteen drums of equipment, exceeding 2,100 pounds, were removed from the glovebox.

The 232-Z Data Quality Objective and Sampling Analysis Plan were submitted to RL on February 17, 2004. These documents define the basis and strategy for the sampling within the 232-Z Facility supporting waste disposal and building demolition.

Transition 236-Z Facility: The Plutonium Reclamation Facility (PRF) material balance area bi-annual inventory was completed. A successful test of the fogging system in the PRF canyon was performed. Fogging of the PRF canyon will "fix" loose radiological contamination prior to canyon entry to work on the crane.

Legacy Plutonium (Pu) Holdup Removal and Disposition: The performance specification for the PRF canyon "remote mechanical" removal has been approved. The performance specification was developed for use in procuring the 'best in class' remote canyon floor cleaning capabilities.

Notable Accomplishments, continued

Laboratory Transition: PFP non-destructive assay (NDA) and RL staff visited Rocky Flats Environmental Technology Site (RFETS) in early February to review their NDA program, processes, techniques, organizational structure and lessons learned. The visit also included discussions with RFETS Safeguards, D&D, and other NDA data users.

The first in-house NDA training classes for PFP Chemical Technicians and Scientists was completed in February. The next class is scheduled for March 15, 2004.

Transition Operations Support: Reorganization and comprehensive training to D&D of the PFP complex began after the mid-February completion of the Stabilization and Packaging Project. This "focus period" began on February 16, 2004, and is expected to continue through early March.

The 234-5Z Balance of Plant Engineering Evaluation/Cost Analysis was submitted to RL on February 20, 2004. RL review and comments are expected in mid-March.

Issues

SNM De-inventory Delay: RL's direction to delay the PFP SNM de-inventory will require a major revision of the PFP Closure Project baseline, including Performance Incentive objectives.

FY 2004 FH Funds versus Forecast ($000)

	FY 2004 Anticipated Funding w/Carryover	FY 2004 Fiscal Year Spend Forecast	Variance
Nuclear Materials Stabilization & Disposition	$ 164,153	$ 159,404	$ 4,749

The Fiscal Year Spend Forecast reflects the RL-directed two-year delay in SNM de-inventory as well as the disposition of fuel stored at PFP. The current forecast indicates the following factors contributed to the forecasted positive funding variance: delayed staff ramp-up, delayed purchasing of consumables, a delay in issuing subcontracts, and the corresponding decrease in overheads.

FY 2004 Schedule/Cost Performance ($000)

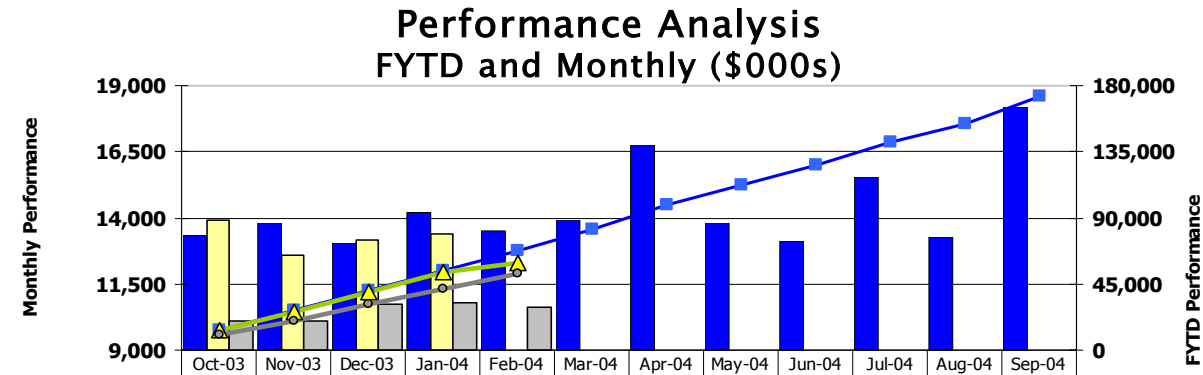
	Budgeted Cost of Work Scheduled	Budgeted Cost of Work Performed	Actual Cost of Work Performed	Schedule Variance $	Schedule Variance %	Cost Variance $	Cost Variance %	Budget At Completion
Nuclear Materials Stabilization & Disposition	67,895	59,114	52,371	-8,781	-13%	6,743	11%	172,462

Numbers are rounded to the nearest $K and include the closure services allocation.

Schedule Performance (-$8,781K/-13%): Primary contributors to the negative schedule variance are: (1) delayed shipment of SNM to Savannah River and associated procurement of shipping containers due to unavailability of Safe and Secure Transports and approval of the Record of Decision for shipment; and (2) delay in staff ramp-up and the Tank D-5 transfer which are impacting D&D activities. The baseline adjustment is currently being prepared to revise the baseline to reflect the impact of the delayed de-inventory, staffing delays, and funding adjustments.

Cost Variance ($6,743K/11%): The positive cost variance is the result of: early completion of the Pu stabilization activities; scope efficiencies resulting in cost savings (sample analysis, facility modifications and equipment and staff efficiencies); and time-phasing of level-of-effort procurements. This favorable variance is partially offset by cost increases for waste disposal; additional scope required for resolution of Tank D-5 transfer; inefficiencies in packaging of initial shipping containers due to start/stop of packaging operations; and difficulties associated with 232-Z deactivation and delays in Tank D-5 transfer.

Cost savings will be utilized to offset cost increases resulting from increased scope and/or execution difficulties; time-phasing of procurements will be re-planned as part of the baseline adjustment; and improvements in packaging shipping containers are expected as routine packaging operations are established.



	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04
Monthly BCWS	13,344	13,805	13,036	14,196	13,514	13,914	16,766	13,790	13,100	15,519	13,269	18,209
Monthly BCWP	13,906	12,583	13,168	13,406	6,052							
Monthly ACWP	10,102	10,122	10,748	10,775	10,624							
FYTD BCWS	13,344	27,148	40,185	54,381	67,895	81,809	98,575	112,365	125,465	140,984	154,253	172,462
FYTD BCWP	13,906	26,489	39,657	53,063	59,114							
FYTD ACWP	10,102	20,224	30,972	41,747	52,371							

Milestone Achievement

Number	Milestone Title	Type	Due Date	Actual Date	Forecast Date	Status/ Comments
TRP-02-501	Complete Stabilization and Packaging of Polycubes	DNFSB	3/31/03	2/28/03		Complete
TRP-03-501	Submit Facility End Point Criteria Document to Ecology	TPA	9/30/03	9/30/03		Complete
TRP-03-503	Submit to Ecology a PFP Residual Chemical Hazards Assessment	TPA	12/31/02	12/27/02		Complete
TRP-03-504	Submit Closure Plan for 241-Z Waste Treatment Facility TSD Unit to Ecology	TPA	7/31/03	7/25/03		Complete
TRP-04-506	Completion of all Plutonium (Pu) Stabilization & Packaging	PI	2/18/04	2/12/04		Complete
TRP-04-508	Complete Repackaging of PFP Residues and Ship to Central Waste Complex (CWC)	TPA	4/30/04			Ahead of Schedule
TRP-05-501	Discontinue Waste Discharges from the 241-Z Tanks to Tank Farms	TPA	6/30/05			On Schedule
TRP-05-503	Special Nuclear Material Transferred to Savannah River Site of DOE Approved Interim Storage	PI	9/30/05		9/30/07	DOE has notified FH that the current shipping schedule will not be met.
TRP-05-504	Legacy Pu Holdup Removed & Dispositioned	PI	9/30/05			On Schedule
TRP-06-501	Complete 100% of Legacy Pu Holdup Removal & Disposition	TPA	9/30/06			On Schedule
TRP-06-502	Complete Transition & Dismantlement of the 232-Z Bldg Incinerator	TPA	9/30/06			On Schedule
TRP-06-503	Protected Area Eliminated	PI	12/31/05		12/31/07	Protected Area elimination will not bet met due to delayed de-inventory
TRP-06-507	PFP Facilities (61 Buildings) Ready For Demolition	PI	9/30/06		TBD	Demo ready of 61 buildings will not be met. Two year SNM de-inventory delay, and funding reduction has necessitated a re-sequencing of D&D work scope.